

1 1. A method of calibrating a digital camera for
2 ambient light conditions comprising:
3 measuring the ambient white light intensity;
4 illuminating a plurality of lights, each of a
5 different wavelength;
6 measuring the intensity of each of said lights
7 together with the white light intensity; and
8 using said measurements to calibrate said digital
9 camera for the ambient light conditions.

1 2. The method of claim 1 wherein measuring the
2 ambient white light intensity is implemented automatically
3 in response to a request for calibration.

1 3. The method of claim 1 wherein measuring the
2 ambient white light intensity is implemented automatically
3 in response to the detection of a change in ambient light
4 conditions.

1 4. The method of claim 1 wherein measuring the
2 ambient light conditions includes imaging an external
3 device.

1 5. The method of claim 1 wherein measuring the
2 ambient white light intensity involves measuring the light

3 transmitted by a light emitting element coupled to said
4 camera.

1 6. The method of claim 5 wherein measuring the
2 ambient white light intensity includes moving a white light
3 transmissive element into the optical axis of said digital
4 camera.

1 7. The method of claim 1 wherein illuminating a
2 plurality of lights involves illuminating at least four
3 lights of different wavelengths.

1 8. The method of claim 1 wherein illuminating a
2 plurality of lights includes illuminating at least five
3 lights of different wavelengths.

1 9. The method of claim 4 further including using
2 pattern recognition techniques to locate an external
3 calibration device.

1 10. The method of claim 1 further including measuring
2 the white light reflected by an external device and
3 identifying indicia on said external device containing
4 information about the optical characteristics of said
5 external device.

1 11. The method of claim 1 wherein measuring the
2 ambient white light intensity includes measuring the light
3 transmitted through a device coupled to said camera and
4 capturing information recorded on said device about the
5 optical characteristics of said device.

1 12. An article comprising a medium for storing
2 instructions that cause a processor-based system to:
3 cause a measurement of the ambient white light
4 intensity to be taken;
5 illuminate a plurality of lights, each of a
6 different wavelength;
7 cause a measurement to be taken of the intensity
8 of each of said lights together with the white light
9 intensity; and
10 calibrate said digital camera for the ambient
11 lighting conditions using said measurement.

1 13. The article of claim 12 further storing
2 instructions that cause a processor-based system to
3 automatically measure the ambient white light intensity in
4 response to a request for calibration.

1 14. The article of claim 12 further storing
2 instructions that cause a processor-based system to
3 automatically cause measurements of the white light

4 intensity to be taken in response to the detection of a
5 change in ambient light conditions.

1 15. The article of claim 12 further storing
2 instructions that cause a processor-based system to cause a
3 measurements to be taken of the light transmitted by a
4 light emitting element coupled to said camera.

1 16. The article of claim 12 further storing
2 instructions that cause a processor-based system to use
3 pattern recognition techniques to locate an external
4 calibration device.

1 17. The article of claim 12 further storing
2 instructions that cause a processor-based system to measure
3 the white light reflected by an external device and
4 identify indicia on said external device containing
5 information about the optical characteristics of said
6 external device.

1 18. The article of claim 12 further storing
2 instructions that cause a processor-based system to measure
3 the light transmitted though a device coupled to said
4 camera and capture information recorded on said device
5 about the optical characteristics of said device.

1 19. A portable device for calibrating a digital
2 camera for varying ambient light conditions comprising:
3 a housing having a white surface;
4 a plurality of light emitting elements adapted to
5 illuminate said white surface; and
6 a control circuit adapted to sequentially
7 illuminate said light emitting elements.

1 20. The device of claim 1 including indicia on said
2 white surface containing coded information about the
3 optical characteristics of said white surface.

1 21. The device of claim 19 including five light
2 emitting elements, each emitting light of a different
3 wavelength, said elements coupled to said control circuit.

1 22. The device of claim 21 including two light
2 emitting elements emitting light of different wavelengths
3 corresponding to a first primary color, two light emitting
4 elements emitting light of different wavelengths
5 corresponding to a second primary color and at least one
6 light emitting element emitting light of the wavelength of
7 a third primary color.

1 23. The device of claim 19 wherein said housing
2 includes two slidably connecting housing portions, one of

3 said portions including said white surface and the other of
4 said portions including said control circuit, a battery,
5 and said light emitting elements.

1 24. A digital camera comprising:
2 an imaging sensor having an optical axis;
3 a white light transmissive plate mounted in the
4 optical axis of said sensor and displaceable from said
5 optical axis; and
6 a plurality of light emitting elements adapted to
7 illuminate said white light transmitting plate with light
8 of a plurality of different wavelengths.

1 25. The camera of claim 24 wherein said white light
2 transmissive plate is rotatable out of the optical axis of
3 said sensor.

1 26. The camera of claim 24 including a plurality of
2 light emitting elements arranged circumferentially about
3 said white light transmissive plate.

1 27. The device of claim 24 including two light
2 emitting elements emitting light of different wavelengths
3 corresponding to a first primary color, two light emitting
4 elements emitting light of different wavelengths
5 corresponding to a second primary color and at least one

6 light emitting element emitting light of the wavelength of
7 a third primary color.

1 28. The camera of claim 24 adapted to take a
2 plurality of measurements and to correct color based on
3 ambient light conditions.

1 29. The camera of claim 28 including a processor
2 adapted to automatically correct color when a change in
3 ambient light conditions is detected.

1 30. The camera of claim 28 including a processor
2 adapted to automatically correct color when an input signal
3 is received indicative of a calibration request.